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The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EKKEHARD BEER, HERMANN DALLMAN and HAJO HAGENS

Appeal No. 94-4226
Application No. 07/838,345¹

ON BRIEF

Before GARRIS, WEIFFENBACH, and PAK, Administrative Patent Judges.

PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the examiner's refusal to allow claims 1 through 3, 6, 8 through 10, 12 through 20 and 23 through 25, which are all of the claims remaining in the application. Claims 1, 6, 8, 9 and 24 have been amended subsequent to final rejection.

¹ Application for patent filed February 20, 1992.

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The subject matter on appeal relates to an article having at least one surface exhibiting antireflection properties. Further details of this appealed subject matter are set forth in illustrative claims 1, 3, 10, 20 and 24, which read as follows:

1. A process for producing an article having at least one surface which exhibits antireflection properties, comprising the step of:

a) transferring to at least one surface of an article, a surface structure of a polymeric film, wherein said polymeric film comprises a thermoplastic material,

said surface structure comprising individual, randomly distributed elevations, wherein said elevations rise 0.01 to 15 microns above the lowest regions of the surface having the elevations,

so that the resultant article comprises a mirror image of said surface structure, wherein said surface has a substantially uniform configuration comprising mutually linked individual structures, wherein said surface structure comprises continually repeating elementary cells which have a mean diameter of about 10 to 800 microns,

said transferring comprising transferring the surface structure of said film to said article by applying a surface of said film having said structure to said article, so as to form a mirror-image of said structure on said article, and, thereafter, optionally removing said film.

3. A process as claimed in claim 1, wherein said elevations are formed by the presence of at least one of inorganic or organic additives in the film.

10. A process as claimed in claim 1, wherein said film comprises a uniaxially or biaxially oriented film which has been heat-set.

20. An article produced by a process according to claim 1.

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24. A process for producing an article having at least one surface which exhibits antireflection properties, comprising the step of:

a) transferring to at least one surface of an article, a surface structure of a polymeric film, wherein said polymeric film comprises a thermoplastic material,

said surface structure comprising individual, randomly distributed elevations, wherein said elevations rise 0.01 to 15 microns above the lowest regions of the surface having the elevations,

so that the resultant article comprises said surface structure, wherein said surface structure has a substantially uniform configuration comprising mutually linked individual structures, wherein said surface structure comprises continually repeating elementary cells which have a mean diameter of about 10 to 800 microns,

said transferring comprising applying said film to said article as a cover layer wherein a surface of the film comprising said structure faces outward from said article.

The sole reference relied on by the examiner is:

Nishiyama et al. (Nishiyama) 4,937,030 Jun. 26, 1990

Claims 1 through 3, 6, 8 through 10, 12 through 20 and 23 through 25 stand rejected under 35 U.S.C. § 103 as unpatentable over the disclosure of Nishiyama.

We have carefully reviewed the entire record, including conflicting viewpoints advanced by the examiner and appellants in support of their respective positions. This review leads us to conclude that only the rejection of claims 1, 2, 6, 8, 9, 12

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through 17, 20, 23 and 24 is well-founded. Accordingly, we affirm the examiner's decision to reject claims 1, 2, 6, 8, 9, 12 through 17, 20, 23 and 24. However, we reverse the examiner's decision to reject claims 3, 10, 18, 19 and 25. Our reasons for these determinations follow.

As a preliminary matter, we note that appellants argue at page 3 of the Brief that:

The claims do not stand or fall together. Each of the claims is independently patentable, except that claims 1, 17, and 20, stand or fall together, for the reasons outlined below.

However, claim 20, unlike claim 1, is directed to a product. Accordingly, we will address the limitations of all of the appealed claims, except for claim 17 which stands or falls with claim 1. See 37 CFR § 1.192(c)(5)(1993).

We consider first the § 103 rejection of claims 1, 2, 6, 8, 9, 12 through 17, 20, 23 and 24 over the Nishiyama disclosure. Claim 1 recites a process for producing an article having at least one surface exhibiting antireflection properties. The process involves applying a surface of a polymeric film having a particular surface structure onto at least one surface of the article. The particular surface structure of the polymeric film is characterized as having "individual, randomly distributed elevations, wherein the elevations rise 0.01 to 15 microns above

the lowest regions of the surface of the surface having the elevations". The particular surface structure is further characterized as having "a substantially uniform configuration comprising mutually linked individual structures" which are defined as "continually repeating elementary cells which have a mean diameter of about 10 to 800 microns". According to page 5 of the specification, applying the polymeric film means actually bonding or attaching the polymeric film to the article itself so as to form a mirror image of the particular surface structure of the polymeric film on the article. Claim 2 defines the article as having a molded body. The molded body, in turn, is required to be made from the same type of polymer as the surface of the polymeric film which bonds to the molded body. Claim 6 further limits the height of the elevations. Claims 8 and 9 further limit the mean diameter of the repeating elementary cells. Claim 12 requires the use of a polymer which has an adhesion-promoting action to bond the polymeric film and the article. Claim 13 is directed to forming a decorative structure on at least one surface of the article. Claim 14 defines the article as a plastic panel and the polymeric film as a release film. Claims 15 and 16 specify the types of polymer employed. Claim 23 recites that the article is made of a variety of materials.

Claim 24 requires that the polymeric film is applied as a cover layer so that the particular surface structure of the polymeric film faces outward from said article. Claim 20 defines an article in terms of process limitations. The article claimed is one produced according to the process recited in claim 1.

The Nishiyama reference relied upon by the examiner discloses a process for fabricating a non-reflective article which provides "a highly attractive and decorative surface." See the paragraph bridging columns 1 and 2. The process involves forming from a suitable resin a skin having "the same dimensional characteristics as the prototype surface and the same, unbiased variance $W(a)$ as the prototype surface, thereby providing the highly desirable low reflectance antiglare desired skin surface characteristics." See column 5, lines 12-28. The prototype surface "is defined by a plurality of recesses having a cross section in the range of approximately 170 to 500 microns and a depth in the range of approximately 8 to 133 microns." See column 4, lines 2-5. To improve surface configuration, the unbiased variance $W(a)$ is minimized. See column 4, lines 17-39. Specifically, "the improved antiglare effect is enhanced when the unevenness exists regularly at a uniform interval on the surface as compared to one where the uneven surface is formed by recess

distributed at random therein." See column 4, lines 39-44. The unbiased variance $W(a)$ is desirably less than 300 microns. See column 5, lines 35-40. The skin provided with enhanced antiglare structure is utilized on a dashboard, such as the dash panel of a Nissan Leopard automobile. See column 1, lines 50-56 and column 5, lines 29-32. The Nishiyama reference does not mention ways in which this skin can be attached to the dashboard.

However, appellants acknowledge at page 5 of the specification that:

The present invention relates to the application of such a film in a process for producing antireflection-treated surfaces. Said application may, according to the invention, be carried out in any known way so long as the produced article has an antireflection surface. In the simplest embodiment of the invention, the film is applied by any known process as a covering layer to the surface which is to be antireflection-treated using adhesion promoters. As an alternative to using an external adhesion promoter, the film may already be provided during the production process with an adhesion-promoting layer which has been applied, for example, by means of in-line coating or coextrusion. In this case, the film can be applied directly to the surface to be antireflection treated under the action of heat and pressure.

Given the fact that the skin needs to be attached to a dashboard as a cover layer with its structure facing outwardly to provide antiglare effects and that the use of external adhesion promoters or already provided adhesion promoting layers is a well known attaching or bonding technique, it would have been obvious

to one of ordinary skill in the art to employ such conventional bonding techniques to attach the skin described in Nishiyama to a dashboard with a reasonable expectation of successfully attaching it.

Appellants argue that Nishiyama does not teach or suggest the claimed mean diameter of cells and the claimed height of elevations. See claims 1, 6, 8, 9 and 24. As indicated supra, however, Nishiyama teaches either an overlapping range of workable elevation heights and cell diameters, or a range of workable elevation heights and cell diameters, which is very close to that claimed. Accordingly, we agree with the examiner that it would have been obvious to utilize the claimed cell mean diameter and the claimed elevation heights with a reasonable expectation of obtaining antiglare effect. See Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Appellants also argue that Nishiyama does not teach or suggest the surface material of the article to be treated. See claims 2, 14, 23. As indicated supra, Nishiyama is directed to applying a skin having an antiglare property on articles which require a substantial reduction in the reflection of light. Since the types of the materials employed on the surface of

articles are dependent on the utility of the articles involved and since the skin described in Nishiyama can be applied to any articles for the purposes of providing antiglare effect, it would have been obvious to one of ordinary skill in the art to apply the skin described in Nishiyama on articles having the claimed surface materials with a reasonable expectation of providing antiglare effect.

Appellants further argue that Nishiyama does not teach or suggest employing a film, much less a release film. See claims 1, 14 and 24. However, appellants do not define a film or a release film in a manner that would distinguish it from the thin skin described in Nishiyama. See the entire specification. Given the broadest reasonable interpretation to the language in question, we agree with the examiner that the language in question is inclusive of the skin described in Nishiyama.

Moreover, appellants argue that Nishiyama would not have suggested the types of synthetic resins recited in claims 15 and 16. However, Nishiyama teaches that any suitable synthetic resins, inclusive of the claimed resins, can be employed to form a cover skin useful for antiglare purposes. See column 5, lines 12-14. Appellants also do not dispute that the claimed synthetic resins, including their properties, are known. Given these

teachings, it would have been obvious to one of ordinary skill in the art to employ the types of synthetic resins claimed with a reasonable expectation of obtaining the types of surface structure useful for producing antiglare effect.

Finally, we note that claim 20 is directed to an article which is produced by the process recited in claim 1. Claim 1, as broadly interpreted, includes a skin (mold) described by Nishiyama, a skin attached to a dashboard as described by Nishiyama or a dashboard itself (if a polymeric film having a particular surface structure is removed). See In re Thorpe, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985) ("If the product in a product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process.")

In view of the forgoing, we agree with the examiner's conclusion that the subject matter defined by claims 1, 2, 6, 8, 9, 12 through 17, 20, 23 and 24 would have obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103. Appellants have not offered any evidence to the contrary. That is, appellants have not demonstrated criticality of the claimed features.

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We now turn to the rejection of claims 3, 10, 18, 19 and 25 over Nishiyama. Claims 3, 18, 19 and 25 require that the elevations be formed by using at least one inorganic or organic additive in the film. Claim 10 requires the use of a uniaxially or biaxially oriented film which has been heat-set. However, the examiner has not explained why the use of a particular film or particular inorganic or organic additives for forming elevations on **the skin described** in Nishiyama would have been obvious to one of ordinary skill in the art. Accordingly, we determine that the examiner has not established a prima facie case of obviousness regarding the subject matter defined by claims 3, 10, 18, 19 and 25.

In summary:

(1) We affirm the examiner's decision to reject claims 1, 2, 6, 8, 9, 12 through 17, 20, 23 and 24 under 35 U.S.C. § 103; and

(2) We reverse the examiner's decision to reject claims 3, 10, 18, 19 and 25 under 35 U.S.C. § 103.

The decision of the examiner is affirmed-in-part.

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No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED-IN-PART

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CAMERON WEIFFENBACH)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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CHUNG K. PAK)	
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APPEAL NO. 94-4226 - JUDGE PAK
APPLICATION NO. 07/838,345

APJ PAK

APJ WEIFFENBACH

APJ GARRIS

DECISION: AFFIRMED-IN-PART

Typed By: Jenine Gillis

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Revision: 05 Jan 98

FINAL TYPED: